



# COOP News

Volume 3

Edition 1



## The Importance of the National Weather Service Cooperative Observer Network

Taken from NOAA Partnerships

[http://www.nws.noaa.gov/os/coop/Publications/coop\\_factsheet.pdf](http://www.nws.noaa.gov/os/coop/Publications/coop_factsheet.pdf)



The Cooperative Observer Program is a unique partnership between the National Weather Service (NWS) and citizen volunteers in every U.S. state and territory. The successful 120-year-old program provides the nation with a cost-effective way to collect weather data for immediate forecasting needs and longer-term national, regional and local climate outlooks.

Currently, volunteers record weather and climate data at almost 10,000 sites throughout the U.S. and its territories. The federal government provides observers with free training and equipment to set up their weather station. The NWS offers additional support through equipment maintenance and site visits. The observer's job is a great public service to local communities and to the nation. Observers check their weather instruments daily and submit the data over the phone or internet. While nearly all of the 10,000 observing sites support local weather, climate and flood forecasts, data from 1,221 of them also contribute to the U.S. regional climate record. These sites, called the U.S. Historical Climatology Network were selected for their unbroken record and static site location for at least 80 years.

You may ask why is this service needed and what is done with the data? Up to 26 types of weather measurements are reported by observers, including soil temperature, evaporation, snow measurement and liquid equivalent of snow. Observer data at nearly 7,500 sites is one of the few sources of measuring snow and its water equivalency in the U.S. Historical weather averages and normals for all areas of the country are determined using observing data. Observer data help settle billions of dollars annually in insurance and legal claims, determine federal disaster declarations for federal aid to local counties and are a major factor in determining household energy costs. In addition, data collected by weather observers helps local officials make long-term planning decisions about water resources and are used by a variety of industries on a daily basis, including medical, transportation, agriculture, engineering and communication.

Once the data has been received at the NWS office in Jackson, KY, we compile the data and transmit it to the world so everyone can see what's going on here. Initially when the reports come in, we send out an encoded message with the data. This is so various computers can grab the data for forecasting purposes. We then combine everyone's reports and send out products containing the information listed in the reports. Furthermore, data provided by the Cooperative Observers assists our office in making river and flood forecasts for our county warning area. Many of the non-cooperative reporting stations in eastern Kentucky can be found at local airports. These airports are found on the hilltops where the temperature can vary significantly from the valleys. With many of the cooperative observers taking readings in the valleys, we can more accurately predict what temperatures will be where many of our users are located.

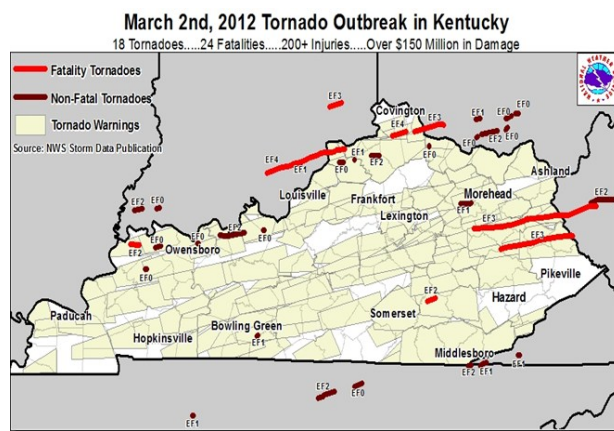
Anyone can become a weather observer. To learn more, visit [www.nws.noaa.gov/om/coop](http://www.nws.noaa.gov/om/coop) or contact your local NWS Office.

# Top Ten East Kentucky Weather Events of 2012

By Tabitha Brewer  
Hydrometeorological Technician

2012 turned out to be a hodgepodge of weather phenomenon from tornadoes in February to snow in October. Several first time events occurred and many records were broken over the course of the year. Beginning with the most significant event, here are the Top Ten East Kentucky Weather Events of 2012 (For more detailed info. on these events visit our web page at [www.weather.gov/jacksonky](http://www.weather.gov/jacksonky) and view Top News Archives:

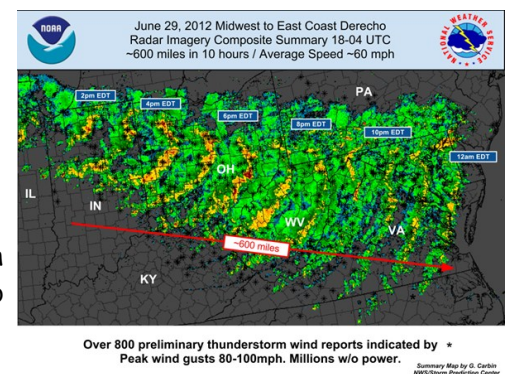
- 1. March 2nd Tornadoes:** The most significant weather event of 2012 was easily the March 2nd tornadoes. A total of 4 tornadoes occurred in the NWS Jackson service area. These tornadoes were chosen as number 1 for several reasons: the 16 direct fatalities which occurred in our county warning area as a result of these tornadoes (2 in Menifee County, 2 in Johnson county, 6 in Morgan County and 6 in Laurel County), the first tornado in recorded history to affect Martin County, the first occurrence of a tornado hitting the same location in a 2 day span in Kentucky (West Liberty in Morgan County), the first occurrence of an EF2 or greater tornado on record for Menifee, Magoffin, Johnson and Martin Counties, and finally, 1 of the top 3 longest tracked tornadoes occurred in Kentucky since 1950 (60 miles in length through eastern Kentucky). Overall, there were a total of 18 tornadoes that occurred on March 2nd across the state of Kentucky, resulting in 24 fatalities, 200+ injuries and over 150 million dollars in damage.
- 2. Drought/Heat Wave:** Low rainfall totals for May and June, combined with the record warmth during the month of June produced moderate drought conditions across the area. Drought conditions did not improve until the latter part of July. Furthermore, a heat wave was in progress across east Kentucky from June 28th through July 8th. During this time frame, new all-time record highs were established at both the NWS in Jackson and at the London-Corbin Airport when the mercury soared to 104 degrees and 105 degrees respectively on June 29th. Triple digit highs lasted from June 29th through July 1st, and readings of 90 degrees or higher occurred for 11 consecutive days, setting a new all-time record for Jackson and the second longest streak at the London-Corbin Airport.
- 3. February 29th Tornadoes:** While not unheard of, it is very unusual for tornadoes to occur in eastern Kentucky during the month of February. On February 29th, 2 tornadoes moved across portions of eastern Kentucky causing scattered damage across portions of Morgan and Pulaski Counties. Fortunately, there were no fatalities or injuries associated with these tornadoes.
- 4. July 5th Severe Weather Event:** A complex of thunderstorms developed over eastern Kentucky during the afternoon hours on July 5th. The main impact from these storms was damaging winds as they dropped southward between 1:30 pm and 5:30 pm EDT. There were numerous instances of wind damage reported. Twenty-one of the thirty-three counties serviced by NWS Jackson reported damage from these storms, ranging from uprooted trees and damaged buildings to power outages.



Damage at Camp Nathaniel

## Top 10 Continued

5. **October 27th–31st Super Storm (Hurricane Sandy):** The major storm system, created as Hurricane Sandy, merged with a strengthening upper level disturbance, brought wide ranging and severe impacts to the far eastern portion of Kentucky. Nearly continuous rain began on Saturday, October 27th, changing over to a heavy, wet snow as early as the afternoon hours on October 28th. The snow first began accumulating on top of Black Mountain in Harlan County, at around 4,000 feet elevation. The snow then made its way down to the valleys of eastern Kentucky during the overnight hours on October 28th and the morning of the 29th. Snowfall accumulations were highly variable across eastern Kentucky, ranging from nothing up to 18 inches.
6. **February 18th–19th Snow Event:** A storm system tracking across the Deep South from late Saturday night February 18th through Sunday night February 19th brought several inches of heavy, wet snow to southeast Kentucky. Accumulating snow was confined mainly to locations along and to the south of the Mountain Parkway, with the largest amounts occurring at elevations above 2,000 feet. Some of the higher snowfall totals were 10.3 inches at Black Mountain, 9 inches at Kingdom Come State Park, and 8 inches at Williamsburg. The heavy, wet snow brought power outages to as many as 30,000 southeast Kentucky residents for several days.
7. **July 1st Severe Weather Event:** Isolated severe thunderstorms produced large hail and downed trees and power lines across portions of eastern Kentucky during the middle to late morning hours of July 1st. Two inch diameter hail was reported near Virgie in Pike County. A second more widespread episode of severe weather occurred during the evening hours with numerous reports of downed trees and power lines across parts of northeast and east Kentucky. The area heaviest hit was Elliott County, which had several downed trees, along with a flattened barn at Wells Creek. Wind gusts from these thunderstorms were estimated to range between 60 to 70 mph.
8. **March 5th Snow Event:** A fast moving low pressure system dumped snow across eastern Kentucky during the overnight and morning hours. The greatest amounts were mostly concentrated in the northern coalfields, with 6.5 inches measured at the cooperative weather station near Farmers in Rowan County, 5.2 inches at Howard's Mill in Montgomery County and 5 inches at both Coon in Magoffin County and Mount Sterling in Montgomery County. Other locations across eastern Kentucky received anywhere from 4 inches to 3 tenths of an inch.
9. **Warmest March:** March 2012 established new monthly temperature records for both the NWS office in Jackson and the London-Corbin Airport. NWS Jackson finished March with an average temperature of 59.2 degrees, which is 11.8 degrees above the normal of 47.4 degrees, besting the old benchmark of 54.2 degrees from 2007. At the London-Corbin Airport, the average temperature for March 2012 was 57.3 degrees which was 9.9 degrees above the normal of 47.4 degrees, besting the old benchmark of 55.1 degrees from 2007.
10. **June 29th Derecho Wind:** A complex of thunderstorms known as a derecho raced from Indiana and Ohio across the central Appalachians and into the Mid-Atlantic States during the late afternoon and evening hours of June 29th. The tail end of this complex skirted eastern Kentucky, with an outflow boundary pushing well away from the storms themselves, bringing damaging winds well outside of areas seeing any rain or thunderstorm activity. The outflow boundary produced wind speeds of up to 68 mph causing numerous downed trees and power outages. At one point, up to 63,800 Kentucky Power customers were without service in eastern Kentucky.





## Cooperative Observer Length of Service Awards

The following institution will receive a Length of Service Award this year:

<u>Site</u>	<u>Name of Observer</u>	<u>Years</u>
1. KSP Post 8 Morehead, KY	Staff	30

The following individual will receive a Length of Service Award this year:

<u>Site</u>	<u>Name of Observer</u>	<u>Years</u>
1. Cumberland 2N Kingdom Come State Park	Rick Fuller	15

**CONGRATULATIONS AND THANK YOU FOR YOUR DEDICATION  
TO THE NATIONAL WEATHER SERVICE!!!**

## Weather Funny



## Getting to Know Us...

In Profile this Month: The National Weather Service Office, Jackson, KY



The National Weather Service decided to place a weather station in eastern Kentucky as a result of the tragic flooding of April 2-5, 1977. This was classified as a 500-year flood, with over 15 inches of rain falling across several major river basins in Kentucky, West Virginia, Tennessee, North Carolina, and Virginia. 22 people lost their lives, and property damage was counted in the hundreds of millions of dollars. In the damage assessment that followed, several major findings underscored the critical need for additional radar coverage through the mountainous areas, improved communication links, and most importantly, qualified people to work with the local population to assist in flood planning, disaster preparedness, and better data collection, including rainfall amounts, through the sparsely populated and rugged terrain of the mountains.

Although the National Weather Service issued a flood watch well in advance of the flooding and flash flood warnings were timely with numerous updates, many people who heard the watch, warnings, and updates took little action as they did not envision the magnitude of the flooding, or they felt that flood control measures would protect their town. For many, actions taken were too little, too late. There were also major failings in the communications links between the NWS and the local population as telephone links, electrical service, and even radio stations went off the air at the height of the disaster. In the affected 4-state area of Kentucky, Tennessee, Virginia, and West Virginia, only Virginia was served by a Disaster Preparedness Meteorologist. It was clear that the local population must have educational programs in order to understand and respond when severe weather watches and warnings were issued.



Recognizing that the cornerstone of such an educational program would require an active flash flood focus, with an interested and involved citizenry to minimize the loss of life and property damage, the NWS decided to place a new office in the flash flood prone region of east Kentucky. Due to the centralized location with existing NWS offices and network radars, Breathitt County was selected as the site of the newest NWS office with the facilities to be located at the Jackson/Julian Carroll Airport a few miles outside of Jackson.



Construction took place through late 1979 into 1980 and the office was officially commissioned January 1st, 1981. The NWS office in Jackson, KY provides services for 33 counties, 24 hours a day, 7 days a week.

Visit us on the web at:  
<http://www.weather.gov/jacksonky>

## Reminders & Tips

1. If you enter your observation in Wxcoder, please try to have the observation entered by 9:30 a.m. We use the data you submit to produce a morning Regional Temperature and Precipitation Summary (RTP) that is displayed on our web page. This report must be generated before 10 a.m.
2. If you are going out of town, please try to notify us ahead of time. Our email addresses are: [jeffrey.carico@noaa.gov](mailto:jeffrey.carico@noaa.gov) and [tabitha.brewer@noaa.gov](mailto:tabitha.brewer@noaa.gov), or you can call us at (606) 666-5636.
3. Check the inner tube and funnel of your rain gauge to ensure it did not crack during the winter. If you find cracks, please let us know and we will send you a replacement.
4. Let us know ASAP if you are experiencing problems with your temperature equipment. Some errors we can help you correct when you call, others may require a home visit.
5. If you miss taking an observation and you have the NIMBUS max/min box, you can call us and we can step you back through to get the max, min and at observation temps.
6. If your box is displaying -99.9, that generally means there has been a loss of power to the box. In this instance, check to see that the box is plugged in. If the box is plugged in, then gently push in on the plug in the back of the box to ensure it is making connection. If -99.9 still displays, unplug your box, then plug it back in. If all of the above fails to clear the -99.9, call and let us know, a home visit may be required.
7. If your box is displaying an "L", that means the back-up battery needs to be replaced.
8. Remember to enter zeros in the snowfall and snow depth columns on your B91s as well as entering them into Wxcoder. This gets you ready for the winter season and becomes a habit. It is also important that the columns on your B91 are all filled in, even if no precipitation has occurred.
9. It is the time of year to start scheduling routine visits, so don't be surprised if you get a phone call from a staff member of the Jackson NWS Office to set up a time to visit.
10. If you are a Fisher Porter site, please attempt to get the cards mailed out to us by the 5th of the month.

